Current Controversies, Recent Developments and Emerging Strategies in the Practical Management of Non-Small Cell Lung Cancer

TARGET AUDIENCE

This activity has been designed to meet the educational needs of medical oncologists, hematologist-oncologists, radiation oncologists, fellows and other healthcare providers involved in the treatment of lung cancer.

OVERVIEW OF ACTIVITY

Lung cancer is increasingly being recognized as a heterogeneous group of tumors. Not long ago, it was clinically sufficient to make a differentiation between small cell lung cancer and non-small cell lung cancer (NSCLC). Today, individualized treatment decisions are increasingly driven by genetic biomarkers in addition to histological subtype and patient-specific characteristics.

Determining which treatment approach is most appropriate in a given case requires careful consideration of patient and disease characteristics as well as available health system resources. To facilitate appropriate decision-making for the various presentations of NSCLC, oncology clinicians must be kept abreast of key research developments related to this rapidly evolving field. This CME program uses a roundtable discussion with leading lung cancer clinical investigators to assist practicing clinicians in this regard and ensure they are delivering state-of-the-art care.

LEARNING OBJECTIVES

- Identify distinct subtypes of adenocarcinoma of the lung — including those with EGFR mutations, EML4-ALK gene fusions, MET amplification and other recently identified driver mutations — and the approved and investigational treatment options for patients with these mutations.
- Assess new oncogenic pathways mediating the growth of unique NSCLC tumor subsets, and recall emerging data with experimental agents exploiting these targets.
- Apply the results of existing and emerging clinical research to the multimodality treatment of Stage II and III NSCLC.
- Develop an evidence-based approach to the selection of induction and maintenance biologic therapy and/or chemotherapy for patients with advanced NSCLC.
- Describe emerging data on the efficacy and safety of tumor immunotherapy directed at the PD-1/PD-L1 pathway in lung cancer, and consider this information when counseling patients regarding clinical trial participation.

ACCREDITATION STATEMENT

Research To Practice is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

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Research To Practice designates this enduring material for a maximum of 2.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

HOW TO USE THIS CME ACTIVITY

This CME activity consists of a video component. To receive credit, the participant should watch the video, complete the Post-test with a score of 70% or better and fill out the Educational Assessment and Credit Form located at ResearchToPractice.com/LCUTT114/Video/CME.

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Research To Practice (RTP) is committed to providing its participants with high-quality, unbiased and state-of-the-art education. We assess potential conflicts of interest with faculty, planners and managers of CME activities. Real or apparent conflicts of interest are identified and resolved through a conflict of interest resolution process. In addition, all activity content is reviewed by both a member of the RTP scientific staff and an external, independent physician reviewer for fair balance, scientific objectivity of studies referenced and patient care recommendations.

FACULTY — The following faculty (and their spouses/partners) reported real or apparent conflicts of interest, which have been resolved through a conflict of interest resolution process:

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MODERATOR — Dr Love is president and CEO of Research To Practice, which receives funds in the form of educational grants to develop CME activities from the following commercial interests: AbbVie Inc, Algeta US, Amgen Inc, Astellas, AstraZeneca Pharmaceuticals LP, Aveo Pharmaceuticals, Bayer HealthCare Pharmaceuticals, Biodesix Inc, Biogen Idec, Boehringer Ingelheim Pharmaceuticals Inc, Bristol-Myers Squibb Company, Celgene Corporation, Daiichi Sankyo Inc, Dendreon Corporation, Eisai Inc, Exelixis Inc, Genentech BioOncology, Genomic Health Inc, Gilead Sciences Inc, Incyte Corporation, Lilly, Medivation Inc, Merck, Millennium: The Takeda Oncology Company, Novartis Pharmaceuticals Corporation, Novocure, Onyx Pharmaceuticals Inc, Prometheus Laboratories Inc, Regeneron Pharmaceuticals, Sanofi, Seattle Genetics, Spectrum Pharmaceuticals Inc, Teva Oncology and VisionGate Inc.

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Hardware/Software Requirements:
A high-speed Internet connection
A monitor set to 1280 x 1024 pixels or more
Internet Explorer 7 or later, Firefox 3.0 or later, Chrome, Safari 3.0 or later
Adobe Flash Player 10.2 plug-in or later
Adobe Acrobat Reader
(Optional) Sound card and speakers for audio

Last review date: March 2014

Expiration date: March 2015

Select Publications

Cardarella S et al. **Clinical, pathologic, and biologic features associated with BRAF mutations in non-small cell lung cancer.** *Clin Cancer Res* 2013;19(16):4532-40.

Edelman MJ et al. **The prevalence of MET expression by immunohistochemistry in the MetLung (OAM4971g) trial: A randomized, placebo-controlled, phase III study with erlotinib + onartuzumab (MetMAb) vs erlotinib + placebo in patients with previously treated non-small cell lung cancer.** *Proc WCLC* 2013;**Abstract MO12.07**.

Gregorc V et al. **Randomized proteomic stratified phase III study of second line erlotinib versus chemotherapy in patients with inoperable non-small cell lung cancer (PROSE): Secondary endpoint analysis.** *Proc WCLC* 2013;**Abstract O01.07**.

Halmos B et al. **Erlotinib beyond progression study: Randomized phase II study comparing chemotherapy plus erlotinib with chemotherapy alone in EGFR tyrosine kinase inhibitor (TKI)-responsive, non-small cell lung cancer (NSCLC) that subsequently progresses.** *Proc ASCO* 2013;**Abstract 8114**.

Lazzari C et al. **Randomized proteomic stratified phase III study of second-line erlotinib versus chemotherapy in patients with inoperable non-small cell lung cancer (PROSE).** *Proc ASCO* 2013;**Abstract LBA8005**.

Ou SH et al. **Clinical benefit of continuing ALK inhibition with crizotinib beyond initial disease progression in patients with advanced ALK-positive NSCLC.** *Ann Oncol* 2014;25(2):415-22.

Patel JD et al. **PointBreak: A randomized phase III study of pemetrexed plus carboplatin and bevacizumab followed by maintenance pemetrexed and bevacizumab versus paclitaxel plus carboplatin and bevacizumab followed by maintenance bevacizumab in patients with stage IIIB or IV nonsquamous non-small-cell lung cancer.** *J Clin Oncol* 2013;31(34):4349-57.

Peters S et al. **Dramatic response induced by vemurafenib in a BRAF V600E-mutated lung adenocarcinoma.** *J Clin Oncol* 2013;31(20):e341-4.

Phase II trial of dasatinib in subjects with advanced cancers harboring DDR2 mutation or inactivating B-RAF mutation. NCT01514864

Planchard D et al. **Interim results of phase II study BRF113928 of dabrafenib in BRAF V600E mutation-positive non-small cell lung cancer patients.** *Proc ASCO* 2013;**Abstract 8009**.

Randomized phase II study of individualized combined modality therapy for stage III non-small cell lung cancer (NSCLC). NCT01822496

Schuler M et al. **Efficacy of afatinib vs chemotherapy in treatment-naïve patients with non-small cell lung cancer (NSCLC) harbouring activating EGFR mutations with or without metastatic brain disease.** *Proc WCLC* 2013;**Abstract MO07.13**.

Seto T et al. **CH5424802 (RO5424802) for patients with ALK-rearranged advanced non-small-cell lung cancer (AF-001JP study): A single-arm, open-label, phase 1-2 study.** *Lancet Oncol* 2013;14(7):590-8.

Shaw AT et al. **Clinical activity of the ALK inhibitor LDK378 in advanced, ALK-positive NSCLC.** *Proc ASCO* 2013;**Abstract 8010**.

Soria JC et al. **First-in-human evaluation of CO-1686, an irreversible, highly selective tyrosine kinase inhibitor of mutations of EGFR (activating and T790M).** *Proc WCLC* 2013;**Abstract O03.06**.

Spigel DR et al. **Clinical activity, safety, and biomarkers of MPDL3280A, an engineered PD-L1 antibody in patients with locally advanced or metastatic non small cell lung cancer.** *Proc ASCO* 2013;**Abstract 8008**.

Spigel DR et al. **Randomized phase II trial of onartuzumab in combination with erlotinib in patients with advanced non-small-cell lung cancer.** *J Clin Oncol* 2013;31(32):4105-14.

Study of BMS-936558 (nivolumab) compared to docetaxel in previously treated advanced or metastatic squamous cell non-small cell lung cancer (NSCLC) (CheckMate 017). NCT01642004

Study of BMS-936558 (nivolumab) compared to docetaxel in previously treated metastatic non-squamous NSCLC (CheckMate 057). NCT01673867

Vokes E et al. **Preliminary safety and treatment delivery data during concurrent phase of chemoradiation therapy of the PROCLAIM trial: A Phase 3 trial of pemetrexed, cisplatin, and radiotherapy followed by consolidation pemetrexed versus etoposide, cisplatin, and radiotherapy.** *Proc WCLC* 2013;**Abstract P1.09-009**.

Yang JCH et al. **Activity of afatinib in uncommon epidermal growth factor receptor (EGFR) mutations: Findings from three trials of afatinib in EGFR mutation-positive lung cancer.** *Proc WCLC* 2013;**Abstract O03.05**.

Zinner R et al. **Randomized, open-label, phase III study of pemetrexed plus carboplatin followed by maintenance pemetrexed versus paclitaxel/carboplatin/bevacizumab followed by maintenance bevacizumab in patients with advanced nonsquamous non-small cell lung cancer.** *Proc ASCO* 013;**Abstract LBA8003**.